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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
GANTT, ALAN T	

ART UNIT	PAPER NUMBER
2684	

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/073,183	SU ET AL.	
	Examiner	Art Unit	
	Alan T. Gantt	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 February 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,9,11-14,16,20,22-25,27,31 and 33* is/are rejected.

7)☒ Claim(s) *4,6-8,10,15,17-19,21,26,28-30 and 32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 2, 13, and 24 are objected to because of the following informalities: determined factor is not a common usage term and needs to be defined. Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claim 3 recites the limitation "wherein the determined factor equals" in lines 1 and 2. This does provide needed definition, but the term is not commonly used nor is not discussed previously nor is the term used in Claim 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 12, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Voyer.

Regarding 1, Voyer discloses a method of controlling power in a telecommunication system that consists of a simulation for the resolution of the power control convergence problem. Thus, Voyer includes a transmission power control method for a CDMA communication system

which performs communication between a base station and a plurality of mobile stations and meets the limitations for the transmission power control method comprising the steps of:

transmitting an uplink power from the plurality of the mobile stations to the base station; (paragraph 0072)

receiving and measuring the uplink power transmitted from each of the plurality of mobile stations with a received SIR and a SIR requirement threshold at the base station; (paragraph 0041 and 0062 – required SIR)

taking an iterative algorithm to get a convergent transmitted power. (paragraphs 0022 and 0096)

Regarding claim 12, Voyer discloses a method of controlling power in a telecommunication system that consists of a simulation for the resolution of the power control convergence problem. Thus, Voyer includes a system to achieving a transmission power control for a CDMA communication system which performs communication between a base station and a plurality of mobile stations; the system comprising:

means for transmitting an uplink power from the plurality of the mobile stations to the base station; (paragraph 0072)

means for receiving and measuring the uplink power transmitted from each of the plurality of mobile stations with a received SIR and a SIR. requirement threshold at the base station; (paragraph 0041 and 0062 – required SIR)

means for taking an iterative algorithm to get a convergent transmitted power. (paragraphs 0022 and 0096)

Regarding claim 23, Voyer discloses a method of controlling power in a telecommunication system that consists of a simulation for the resolution of the power control convergence problem. Thus, Voyer includes a base station for communicating with a plurality of mobile terminals in a CDMA communication system, comprising:

means for receiving and measuring a uplink power transmitted from each of the plurality of mobile stations with a received SIR and a SIR requirement thresholds at the base station; (paragraph 0041, 0062 and 0072 – required SIR)

means for taking an iterative algorithm to get a convergent transmitted power. (paragraphs 0022 and 0096)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 3, 5, 9, 11, 13, 14, 16, 20, 22, 24, 25, 27, 31, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Voyer et al.

Regarding claim 2, 13, and 24, Voyer suggest the limitations - A transmission power control method, wherein the iterative algorithm expresses that a (n+l)th transmitted power of the

mobile station i equals a convergence factor multiplied with a (n)th transmitted pourer of the mobile station i,

wherein the convergence factor at the nth iteration equals a power convergence factor c(") at the nth iteration over a determined factor (p °~) at the nth iteration. [paragraphs 0088 and 0089 – this statements is just stating that with each iteration a factor is applied to the previous value until a convergence happens, which is what happens with Voyer and the applicant's invention.] At the time of the applicant's invention it would have been obvious to modify Voyer to utilize a power convergence factor for the purpose of knowing desired system parameters and seeking to rapidly approach them.

Regarding claim 3, 14, and 25, Voyer suggests the limitation -A transmission power control method, wherein the determined factor equals the received SIR of mobile station i at the nth iteration over the SIR requirement threshold at the base station for mobile station i. (paragraph 0041 and 0049 – system knows what the required SIR should be and makes adjustments to achieve this based on what SIR was received for the current iteration.)

Regarding claim 5, 16, and 27, Voyer suggests the limitation - A transmission power control method, wherein the power convergence factor is determined from the local information of the received SIR and the SIR requirement threshold in a target cell. (paragraph 0041 and 0049 – system knows what the required SIR should be and makes adjustments to achieve this based on what SIR was received for the current iteration.)

Regarding claim 9, 20, and 31, The examiner takes Official Notice that the following is well known - A transmission power control method, wherein the algorithm is simulated under conditions of:

assuming that there are M mobile stations uniformly distributed in each cell with different SIR requirement thresholds; and

applying the large-scale fading propagation model in the uplink – and that it would have been obvious to modify Voyer to include the above since these model assumptions are typical and seek to yield a common result.

Regarding claim 11, 22, and 33, Voyer suggests the limitation - A transmission power control method, wherein the CDMA communication system is a direct-sequence CDMA communication system. (paragraph 0003 –these conditions are typical for DS-CDMA)

Allowable Subject Matter

Claims 4, 6-8, 10, 15, 17-19, 21, 26, 28-30, and 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 4, 6-8, 10, 15, 17-19, 21, 22, 26, 28-30, and 32, the particulars related to applicant's model or algorithm that are unique to it were neither found, suggested, nr made evident by the prior art.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lundh et al. discloses methods, systems, and arrangements that enable balanced base station transmitter output power levels with respect to the receiving mobile stations in a macro-diversity environment.

Zeira et al. discloses a model for noise rise of users in relation to an interference measure, a path loss and a desired signal to interference ratio is provided.

Shahidi et al. discloses fast forward power control during soft handoff that includes base stations that operate with variable transmit power adjustments during soft handoffs of a mobile station.

Any inquiry concerning this communication from the examiner should be addressed to Alan Gantt at telephone number (703) 305-0077. The examiner can normally be reached between 9:30 AM and 6 PM within the Eastern Time Zone. The group FAX number is (703) 872-9306.

Any inquiry of a general nature or relating to this application should be directed to the group receptionist at telephone number (703) 305-4700.

Alan T. Gantt

Alan T. Gantt

September 29, 2004

NICK CORSARO
PRIMARY EXAMINER